

Pre-Vocational Education in Seven European Countries: A Comparison of Curricular Embedding and Implementation in Schools

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This paper presents a comparative research project on pre-vocational education in lower secondary schools in seven European countries. The primary aim of the study was to better understand how the formal pre-vocational education curriculum is interpreted and shaped by individual teachers. The countries covered are Austria, Germany, Hungary, Latvia, Poland, Portugal and Scotland. Two research methods have been used. First, a content analysis of the relevant curricula was carried out, focussing on how, and to what extent, pre-vocational education competencies are embedded in the official curriculum in the seven countries covered by the study. Second, 75 teachers took part in qualitative expert interviews about their implementation of the relevant curriculum. This research builds upon previous studies in education and employment and in particular, on a theoretical framework that explores the differences between the 'prescribed' curriculum and the 'enacted' curriculum. This study will argue that, although it is possible to identify a distinct pre-vocational curriculum within each region in the seven countries, this curriculum is, in practice, taught very differently within the schools and that the differences in curriculum implementation can be explained, amongst other factors, by the availability of resources and the initial and further training of teachers.

Keywords: school-to-work transition, pre-vocational education, curriculum study, international comparison

Introduction

The education and training policy issues related to young people's transition from school to the labour market have been the subject of intensive debate for some years now, with a focus on combating youth unemployment and on helping schools to prepare their students for the world of work. These debates also have an international dimension (see, for example, Iannelli & Raffe, 2007; Ryan & Büchtemann, 1996; Stern & Wagner, 1999). Against this backdrop, the pre-vocational education components delivered as part of general education have acquired particular significance (Commission of the European Communities, 2009). However, comparative research on pre-vocational education at lower secondary level (see definition below) is rather limited.

Frommberger (2005) has, for example, demonstrated the scope for integrating careers guidance into the economics education curriculum in lower secondary schools in the Netherlands and has briefly discussed the possible implications and relevance for the vocational preparatory programmes offered in German secondary schools.

The Organisation for Economic Co-operation and Development (OECD) has carried out research involving a 14-country comparison of careers guidance and counselling (OECD, 2004). This study focused on careers guidance services available to individuals throughout their life, to young people within compulsory education but also to adults. It therefore considers careers guidance given both within and outside an academic framework. However, it does not specifically analyse the curricula in lower secondary schools, and its comparison is highly descriptive.

Lauterbach (1987) has compared the objectives, forms and content of pre-vocational education in several European countries and has derived a basic typology of pre-vocational programmes in the international context. This work does not, however, include any systematic in-depth analysis of these programmes.

In a recent international comparative study, Li (2012) has investigated the role of theory and practice in pre-vocational education in Germany and China by combining curriculum analysis and interviews with teachers. Li offers an in-depth perspective on pre-vocational education and exposes the divergences between the 'prescribed' and the 'enacted' curriculum. The concept of pre-vocational education underpinning this study includes all academic measures designed both to help young people understand the world of work and business and to facilitate their school-to-work transition. Moreover, Li does not restrict the concept of pre-vocational education¹ to a specific academic subject but interprets it as "open to different education activities" (Li, 2012: p. 7).

So far, there have been very few comparative studies of the kind done by Li (2012) in the European context, and those that exist have, in most cases, been descriptive in nature. To summarise, then, we can argue that the existing research either focuses on macro-level analysis or tends to provide an all-embracing overview (Rakhkochkine, 2012: p. 720). From an international comparative view, relatively little work has been done by way of in-depth and critical comparison of curricula (and their implementation), especially in the field of pre-vocational education (Hörner, 1981: p. 11). From the literature it is clear that additional research is required in the field of pre-vocational education in a European context. Therefore, the additional theoretical benefit and contribution to the literature of this study firstly lies in the systematic analysis of the empirical data of the official syllabuses of pre-vocational education. Secondly, the paper intends to make a contribution at a theoretical level by exploring the differences between the 'prescribed' and 'enacted' curriculum set within national, social and cultural contexts.

Accordingly, this study reflects the demand made by Allemann-Ghionda (2004, pp. 76) and Torney-Puta (1991: p. 600) that international comparisons should not dwell on the differences and divergences evident in education policy and reform initiatives but should foreground the practice of education and training within the framework of a study of curriculum content or of the teaching methods used.

The study presented here², which takes a comparative approach to seven countries (Austria, Germany, Hungary, Latvia, Poland, Portugal and Scotland), focuses explicitly on these issues and, in particular, on two key aspects. The first aspect on which we have focused is the question of whether, and how, pre-vocational education is integrated into compulsory education in the seven countries selected for the study and how these countries design their curricula to reflect particular content priorities. In terms of curriculum theory, we have been concerned to weight the different competency dimensions within a framework for educational objectives that has content constraints (see details below). Our second aim was to analyse how the curriculum is actually interpreted by individual teachers and used in the classroom. A number of earlier studies have shown that there may be major discrepancies between the 'prescribed' curriculum and the 'enacted' curriculum (Bloomer, 1997; Edwards, Miller, & Priestley, 2009).

From a theoretical perspective, our comparative study stands in the tradition of a 'problem approach' (Epstein, 2008; Epstein, 1992; Holmes, 1958). Beside a melioristic function, aimed at establishing what changes could be made in another country, our study also has a nomothetic function, which involves analysis of overarching models for reform, general statements, and common trends in differing countries (Schriewer, 1987).

However, before setting out our methodology and findings in detail, we need to define more closely what we mean by ‘pre-vocational education’. Pre-vocational education can be defined in a number of different ways, ranging from preparing young people to enter the labour market to developing a sense of initiative and entrepreneurship and, more generally, providing an induction into a specific occupational grouping (European Parliament and Council, 2006; OECD, 2005). One of the most common definitions is that provided by the OECD: ‘Pre-vocational education is mainly designed to introduce participants to the world of work and to prepare them for entry into further vocational or technical programmes. Successful completion of such programmes does not lead to a labour-market relevant vocational or technical qualification’ (OECD, 2003)³.

For the purpose of this study, we have assumed a very broad definition of pre-vocational education that encompasses all of the above and does not limit pre-vocational education to any one specific subject of study.

For the purposes of this study, pre-vocational education includes economic literacy (Miller & Vanfossen, 2008: pp. 287) in the form of knowledge-based competencies in economics and business as well as a broader definition of careers guidance as “general education geared to the world of work” (Schudy, 2001, p. 62). Thus, alongside pure specialist knowledge, the key skills underpinning a wide-ranging understanding of the world of work and business, particularly in the context of pre-vocational education, are primarily self-competencies, with an emphasis on entrepreneurial thinking and social competencies.

Curriculum Analysis

Methodology

To provide a coherent basis for our curriculum analysis and to enable us to make a standardised comparison of the countries concerned, we have used the conceptual model developed by Roth (1971). This model is well suited to international comparisons and is also in line with the components of the European Qualifications Framework (Commission of the European Communities, 2009). Within this model, we can identify three distinct areas: knowledge-based competencies; self-competencies; and social competencies. In our study, knowledge-based competencies are further divided into ‘economic knowledge’ and ‘business knowledge’. A total of 29 specific criteria were developed jointly by researchers from the seven countries involved in the study on the basis of the characteristics of the individual competency domains, with each criterion being coded (see below). The individual items under knowledge-based competencies were derived from an analysis of the most common thematic areas tackled by leading standard international textbooks in the areas of economics and business administration (see, for example, Appleby, 1994; Mankiw, 2001). The items under ‘Self-competencies with a focus on entrepreneurial thinking and acting’ are based on the EU definitions of key competencies for lifelong learning (European Parliament and Council, 2006) and on current approaches to entrepreneurship education (see, for example, Bader, Keiser, & Unger, 2007). The social competency items were also derived from appropriate international approaches (European Parliament and Council, 2006; OECD, 2005). To ensure that the analysis tool developed was valid, it was piloted by two independent coders and necessary amendments made to optimise it. This helped to ensure the quality of the methodological tools used and also helped us to monitor the accuracy of the coders (Früh, 2004: pp. 108). For the analysis of the relevant curricula the method proposed by Mayring (2010) for content analysis was applied. Within a sentence-by-sentence analysis, the text extracts found within the curricula were assigned to the previously defined criteria or sub-criteria, as appropriate.

The curricula analysed were selected in accordance with the definition given above of pre-vocational education, so all official curricula in force in the final two years of general lower secondary education (leading to a diploma at ISCED level 2) within the business and social science and careers guidance subjects or subject clusters were selected. Our selection included both compulsory and elective subjects. Not all countries included in the study had national curricula for pre-vocational education, including Germany, where the federal state structure leads to regional differences. In some cases, there were,

therefore, regional limitations on the selection of curricula for the study. The curriculum analysis enabled us to identify the most common elements in the pre-vocational curriculum in force in each country. However, because the study was restricted to selected parts of the curriculum guidelines relating to type of school and year-group in these countries, it was not possible to draw any quantitative conclusions in relation to the curriculum in its 'entirety'.

Findings

Figure 1 illustrates the elements of knowledge-based competencies in economics and business, social competencies, and self-competencies across the curricula analysed in all seven countries involved in the study. $N = 1776$ stands for the sum of the coded text extracts in the material selected and analysed. Therefore, the relative reference value in relation to the findings of the curriculum analysis in this study is not the complete syllabus as a whole, but the number of the coded items.

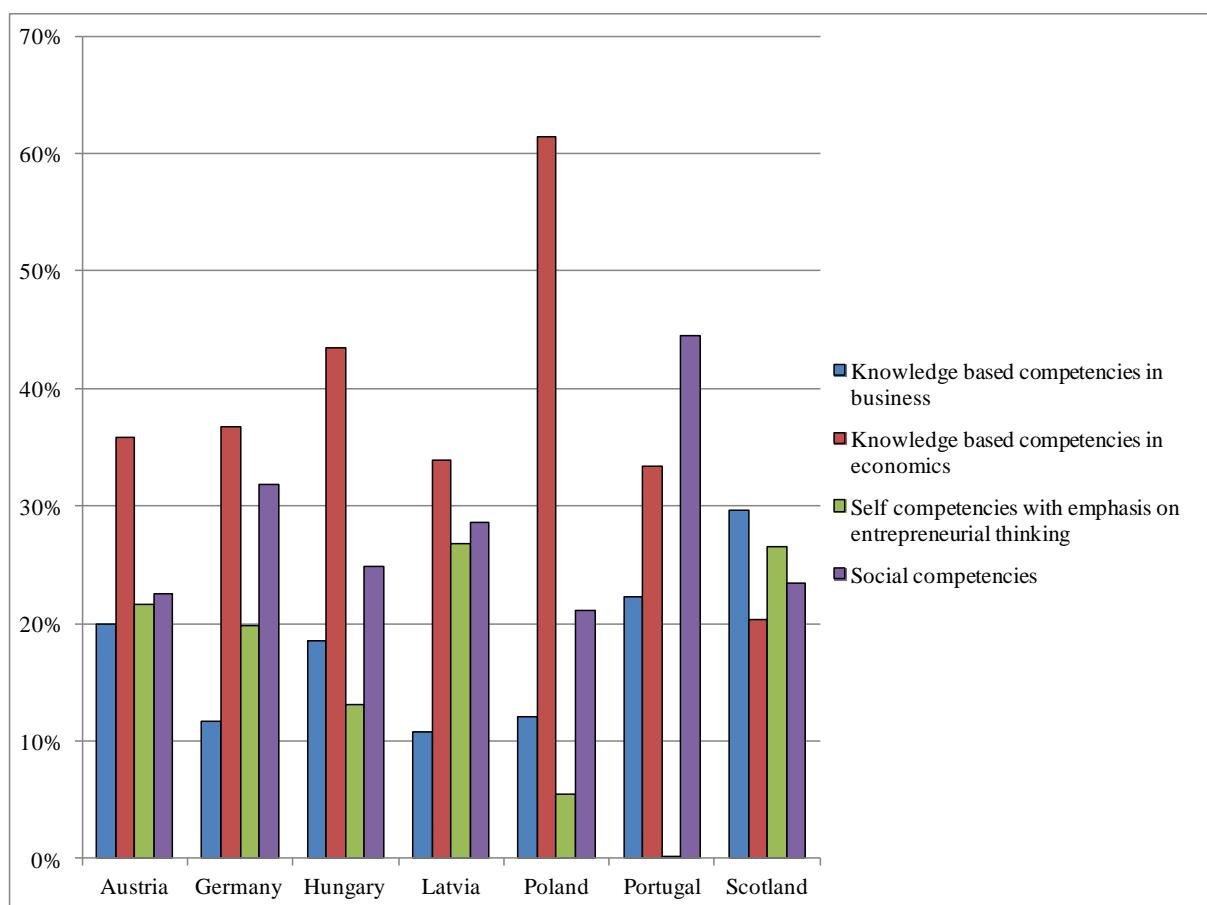


Figure 1. Comparison of knowledge-based competencies in economics and business, social competencies, and self-competencies across all countries (standardised data) ($n = 1776$)

It is striking that, with the exception of Portugal and Scotland, all the countries taking part in the study have prioritised knowledge-based competencies in economics as the most important aspect of their pre-vocational curriculum. Detailed analysis of the four competency areas however reveals country-specific differences. For example, with regard to curriculum content under the heading of knowledge-based competencies in economics (Figure 2), 'Trade and globalisation' (item E3) was central to the analysed curriculum in Germany, Hungary and Portugal, with over 10% of codings for the curriculum in each of these three countries attributable to this item. On the other hand, our analysis of the curricula in general

secondary education in Poland revealed a greater emphasis on 'The monetary system' (item E5), with 11% of all codings attributable to this item.

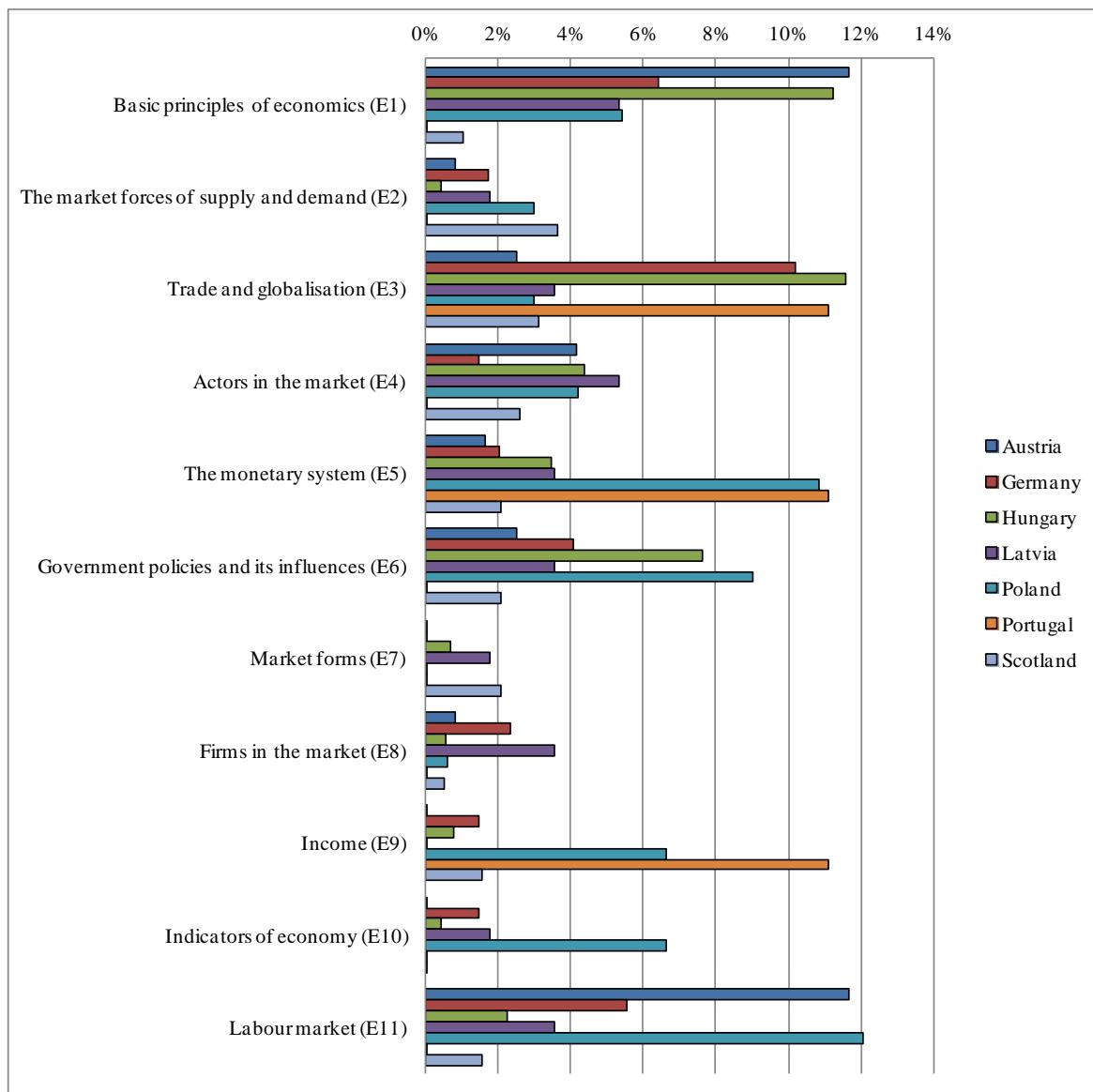


Figure 2. Differentiated comparison of knowledge-based competencies in economics across all countries (standardised data) (n = 1776)

In the other countries involved in the project, the corresponding proportion was below 5%, except in Germany, where it was 6%. However, all the countries studied stress in their curriculum the importance of tackling 'Basic principles of economics' (item E1). In Austria and Hungary in particular, over 10% of all codings could be attributed to this item. Also striking is the tendency in countries such as Germany, Hungary and Poland to emphasise 'Government policies and its influences' (item E6). This may be explained by the fact that in many of the project countries, economics or a similar subject is conventionally taught as part of a subject cluster that may also, for example, include social studies, politics or geography.

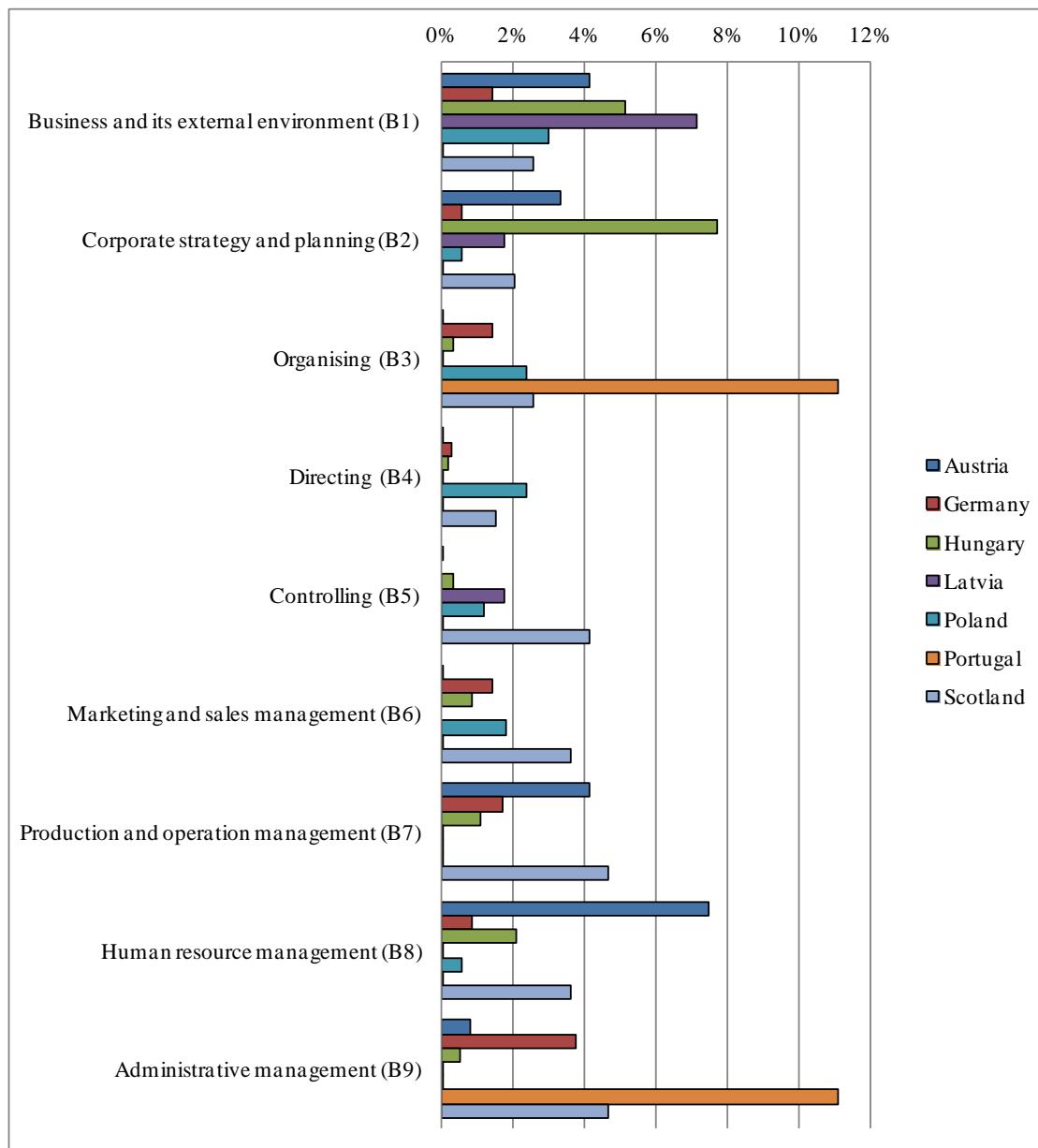


Figure 3. Differentiated comparison of knowledge-based competencies in business across all countries (standardised data) (n = 1776)

Scotland was an exception in relation to items E6 and item E1 ('Government policy and its influences' and 'Basic principles of economics'): here, teaching at lower secondary level focuses on developing basic business skills (Figure 3). With the exception of Germany, the curricula reveal a subordinate role for content related to 'Market forms' (item E7), with particularly few codings in Austria, Poland and Portugal.

The findings in relation to knowledge-based competencies in business also show both convergence and divergence between countries (Figure 3). Countries such as Austria, Hungary and Portugal embed these competencies in their curricula but tend to site them in a much broader context rather than focus on specific business competencies. In Germany, Latvia and Poland, these

competencies are actually marginal to the curriculum, which tends to emphasise the broader global and international aspects of trade, whereas the Scottish curricula analysed tend to focus instead on individual groups and vocational groups. By contrast with the other five countries, the curricula we analysed for Hungary and Latvia made relatively frequent reference to item B1 ('Business and its external environment'), while curriculum guidelines and syllabuses analysed for Hungary tended also to give greater priority to item B2, 'Corporate strategy and planning', with an emphasis on company planning and goal-setting, for instance. It is striking, moreover, that in Portugal, only two items – 'Organising' (item B3) and 'Administrative management' (item B9) – featured in the curricula we analysed. All other areas of knowledge-based competencies in business were given considerably less emphasis (Figure 3). In Scotland, these competencies were defined relatively broadly, but the Scottish curriculum documents were more likely than those in other project countries to include the topics 'Directing' (which relates to managing a company, management styles, etc) (item B4), 'Controlling' (item B5), and 'Marketing' (item B6).

In relation to self-competencies, with a particular focus on entrepreneurial thinking and acting, it is particularly striking that this competency area was especially important in curricula in Latvia and Scotland, where it accounted for just under 27% of all codings (Figure 1). In Latvia, this discrepancy can be explained by the high percentage of small and medium-sized enterprises in the economy, whereas in Scotland, the education system places greater emphasis on specific vocational competencies as part of an overall strategy for employability (see, for example, Gonon, Kraus, Oelkers, & Stolz, 2008). With the exceptions of Latvia and Scotland, virtually all the countries in the study give less priority to what current academic discussion (see, for example, Eickelmann, 2006) would term a 'classic' entrepreneurial profile, including a 'Moderate tendency to take risks' (item SE4) (Figure 4). It is also true of virtually all the countries studied that there is a relative equilibrium in the codings attributed to 'Internal locus of control' (item SE1), 'Achievement motivation' (item SE2) and 'Eagerness for independence' (item SE3) (Figure 4).

In virtually all the countries covered in the project, the social competencies area, along with knowledge-based competencies in economics, is the most significant competency area in the pre-vocational curriculum. Indeed, in six of the seven project countries, it accounts for almost a quarter of the total curriculum coverage analysed (Figures 1 and 5), and this is particularly marked in Portugal. The self-competencies area with an emphasis on entrepreneurial thinking and acting is, by contrast, completely neglected in Portugal (Figures 1, 4 and 5). A closer scrutiny of the distribution of the social competencies sub-area reveals the relatively low emphasis placed on promoting 'Empathy' (item SO5) in all countries except Austria, where 5% of all codings relate to this item. In Poland, by comparison, this area is completely absent in the curriculum documents analysed (Figure 5).

As well as promoting 'Communication ability' (item SO1), pre-vocational education curricula in the seven project countries tended to prioritise developing students' 'Team ability' (item SO4). This was particularly marked in the curriculum guidelines and syllabuses analysed for Germany and Portugal, where fostering team-working skills attracted more than twice the number of codings of the other project countries.

It was also noticeable that each country taking part in the study structured its pre-vocational education curriculum differently. It is useful here to distinguish between two different ways of configuring the curriculum delivery, in either an integrated way or separately. By 'integrated', we mean that the curriculum content is taught within an existing subject or subject cluster, such as Civic Education or Social Sciences. By 'separately', we mean that the content is taught as a discrete subject within the curriculum, such as Business Management. This distinction is, in fact, not unique to pre-vocational education and has already been highlighted in the literature on core skills and work-based learning (Canning, 2011; Pilz, 2009). However, it is a useful framework for our study, given the variety of guises in which the subject appears within the curriculum across different countries and against the backdrop of debates around whether pre-vocational education should actually be taught as a separate subject at lower secondary level.

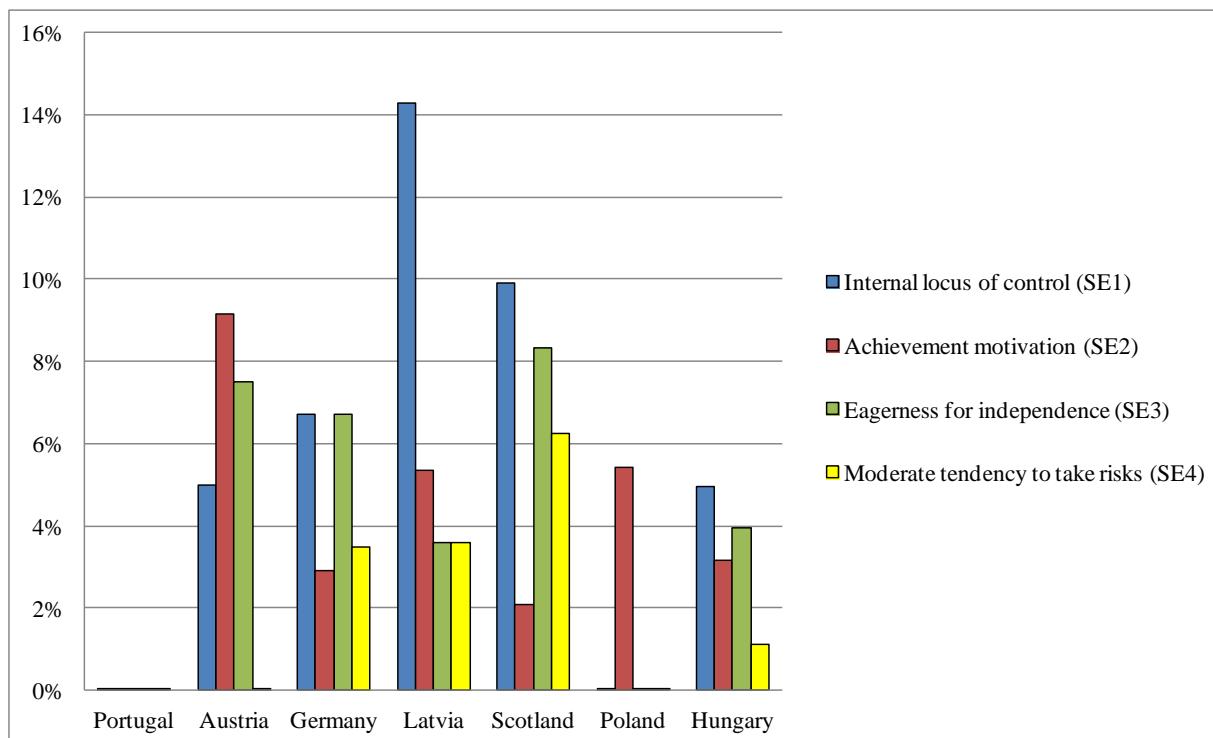


Figure 4. Differentiated comparison of self-competencies with a focus on entrepreneurial thinking across all countries (standardised data) (n=1776)

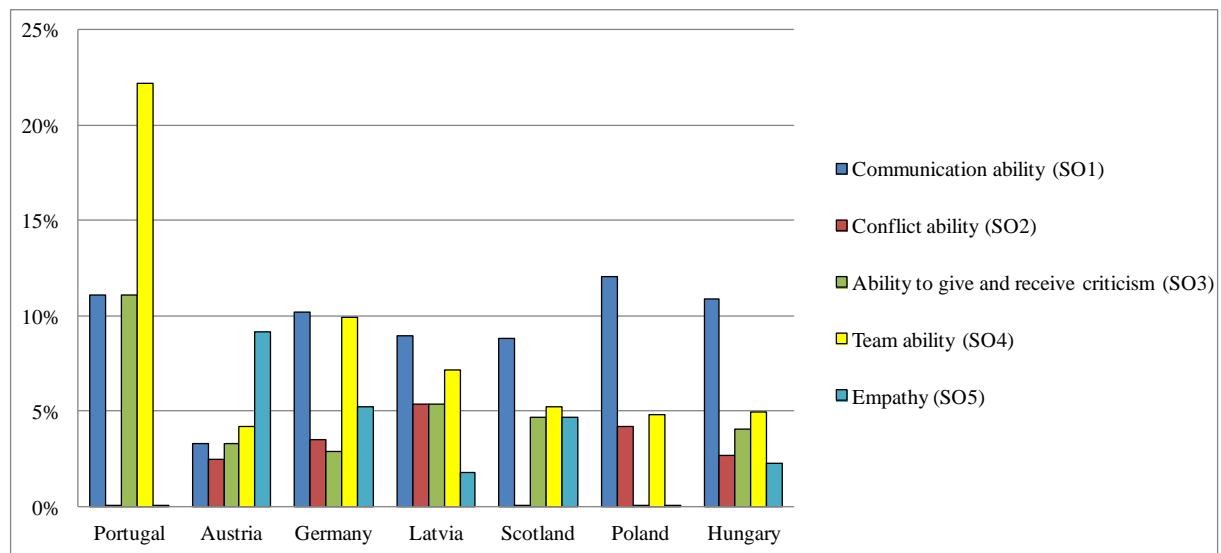


Figure 5. Differentiated comparison of social competencies across all countries (standardised data) (n=1776)

Again with the exception of Scotland, all the countries taking part in the study structured their pre-vocational education curriculum in a more integrated way within well-established existing subject areas. In Germany and Latvia, it was integrated into Social Sciences, in Poland and Hungary into Civic Education, and in Austria mainly into Geography. In Portugal, in marked contrast to the other countries,

the complexity of the subject matter meant that it was rarely covered within any subject in the curriculum. It was only in Scotland that pre-vocational education was taught and certificated separately at lower secondary level (within, for example, the optional course 'Business Management'). It should also be noted that in Austria and Hungary, social and self-competencies were covered within careers guidance rather than being integrated within an academic subject.

Interviews with Teachers

Methodology

We then shifted our focus to how the curriculum is interpreted by the individual teacher and delivered in classroom (Shkedi, 2009). In particular, we explored the differences between the 'prescribed' curriculum (as it is devised and published by the relevant national Ministries of Education) and the 'enacted' or 'interpreted' curriculum. The latter refers to how, in practice, the curriculum is adapted and interpreted by the individual teacher and then delivered within the classroom (Bloomer, 1997; Edwards, Miller, & Priestley, 2009). Our interest here was the scope that teachers have to vary the curriculum at local level (Llewellyn, Cook, & Molina, 2010). For this reason, the research project involved qualitative expert interviews with 75 teachers across all seven countries involved in the study. Conducting interviews, which were relatively limited in number, was not intended to be more broadly empirically representative but, rather, to be of theoretical interest and to form the basis for stimulating further research into curriculum design at lower secondary level. We were also aware of the risk of distortion inherent in surveying interviewees who were themselves involved in what we were studying. However, the resources available did not permit a more wide-ranging observational study.⁴ The semi-structured interview guideline used for the teacher interviews was formulated jointly by the researchers across the project countries. It takes account both of the findings of the curriculum analysis and of the issues raised by the theories of the 'prescribed' curriculum and the 'enacted' or 'interpreted' curriculum. For quality assurance within the research process, the interview guideline was piloted and necessary improvements made to it. The final guideline was then translated into the relevant national languages and used in face-to-face interviews within individual schools. In the first instance, the audio-digital recorded interviews were transcribed and then evaluated with a qualitative content analysis. The findings shown in the subsequent section are the overall results of the analysis of the interviews with 75 teachers. In the following, some selected quotations of teachers will be cited to illustrate the results of the analysis.

Findings

The first important point to make is that there was a distinct difference between the pre-vocational education curriculum we identified during the initial phase of our study and what was actually being interpreted by teachers in schools. According to the statements made by Polish teachers, the curriculum being taught was based on the availability of textbooks and on whether the teachers actually opted to use such textbooks. In the case of Hungary, teachers could opt not to use the textbooks available and rely instead on their own materials. This tended to lead to a wide range of practice within the schools surveyed:

'As a matter of fact, you cannot find good and updated textbooks. They contain a few basic items which are just good for grounding [...]'

(Teacher in Hungary)

'Only the information from Internet can be taken as up-to-date.'

(Teacher in Hungary)

In Latvia and Portugal, it was up to the teachers to decide whether they taught the pre-vocational curriculum at all. In Portugal, many decided not to do so, believing the students were too young to engage in such activities. In Austria, meanwhile, the teachers tended to concentrate on covering the basic Economics curriculum and left the development of self-competencies and social competencies to the careers guidance staff. When interviewed, teachers in Germany and Scotland articulated a clear preference for teaching pre-vocational education in an educationally meaningful way. In Germany, for instance, many teachers saw it as an opportunity to broaden their students' awareness of citizenship issues:

'I don't recognise the importance of Economics in that sense. I don't think the students need economic theory. They should be familiar with the issues they will face as citizens, as consumers and as employees. But I don't think they need to know about the conditions for a perfect market.'

(Teacher in Germany)

In Scotland, meanwhile, the intention was to develop generic capacities that would build students' confidence and transferable skills:

'They know more about how to conduct themselves, not just in work but in life.'

(Teacher in Scotland)

'Employability skills are important, and these courses really motivate pupils as their behaviour in other areas of the school improves.'

(Teacher in Scotland)

Clearly, these teachers believed that they were in a position to do this and were perfectly able and willing to make decisions concerning their students that went beyond the pre-vocational curriculum laid down by national and regional bodies. Teachers from Germany and Scotland seemed much more concerned than those from other countries with the wider social and welfare issues affecting their students.

The second relevant (and disquieting) issue to emerge from the interviews was the apparent lack of training for teachers in pre-vocational education. Many claimed that they had covered only the basic theoretical knowledge in Economics and had little experience in the areas of self-competencies and social competencies. Many had had no work experience outside education since completing their teacher training and, therefore, felt ill equipped to teach the subject. In Scotland, this meant employing college lecturers to teach occupational skills within schools:

'What we are doing in class, with regard to content, has nothing to do with the contents at university. This is too great and demanding and has nothing to do with the reality at school.' (Teacher in Germany)

The low status and poor pay of teachers in some post-Communist countries tended to exacerbate these concerns and added to the difficulties associated with the lack of expertise in teaching this subject area within schools:

'Teaching economics at universities was carried out in a completely different way before regime change.' (Teacher in Hungary)

'We received practically no teaching methods in economics. [...] [Our] grounding in methodology was not suited to present day learning materials and prescriptions.' (Teacher in Hungary)

Many believed that they were already too over-stretched by the existing curriculum to respond to the needs of an additional subject that was not, in fact, formally assessed as part of the national curriculum. In general terms, the actual implementation of the curriculum across the countries surveyed depends on both the individual school and the individual teacher(s) involved. Most of the teachers interviewed across all countries agreed that more time is needed to implement the curriculum adequately:

‘In order to be able to deal with topics in greater depth, I would need more time to implement them in a way that is more related to real life. Take, for example, the very uninspiring history of banking in year three - an excursion would help to make it more vivid. I cannot do it within one lesson, and I do not have access to a second lesson; even if I cooperate with my colleagues, it is not feasible time-wise.’

(Teacher in Austria)

There is a clear inadequacy across the board in the training and in-service training of teachers when it comes to pre-vocational education as well as general economic and business teaching: Many of the teachers interviewed said that if they had studied these areas at all during their training, the syllabus covered only basic economics and had not given them any pedagogical skills to help their students develop self-competencies and social competencies.

As an interim conclusion from the survey of teachers, we can say that the institutional and structural framework has a major influence on the implementation of curricula in all the countries surveyed. The only differences relate to the relevance and significance of individual influences, including the contact time available, the resources and teaching materials to which teachers had access, regional factors, students' individual needs, and the training teachers had received. These findings mirror the findings of other studies on implementing curricula (see above), but there are also parallels with findings on creating conditions for teaching that optimise learning (see, for example, Bransford, 2000; Helmke, 2007). To that extent, we can tentatively interpret the findings for all seven project countries as representing a necessary adjustment by teachers of the curriculum content to the prevailing circumstances in the interests of delivering good teaching.

Discussion

The findings outlined above can now be incorporated into a further context and structured using the two investigative strands set out above. In virtually all the countries covered in the study, there is a broad balance between (specialised) knowledge and what are referred to as ‘soft skills’ (in this case, self-competencies and social competencies) in pre-vocational education (Figure 1). Only in Hungary and Poland is there a tendency to weight the curriculum more heavily in favour of knowledge-based content at the expense of promoting self-competencies and social competencies. Against the backdrop of the competency debate, it then becomes clear that in all the countries studied, the specific role of pre-vocational education is not just to help students to accumulate knowledge and facts but, rather, to prepare them holistically for the world of work and to help them become responsible economic citizens. In other words, pre-vocational education focuses much more on aspects of self-awareness, responsibility towards others, awareness of the world of work, a vocational orientation, and elements of general economic literacy. To this extent, the design of the curriculum in all the project countries complies with the definitions given above of pre-vocational education.

Approaches to the way the curriculum is implemented in the classroom may also differ from one country to another. The evidence from the study suggests that teachers exercise considerable influence over how the curriculum is delivered in the classroom. This distinction between the ‘curriculum-in-theory’ and the ‘curriculum-in-use’ was at times explored in our interviews with teachers through the use of metaphor (Munby, 1990: p. 29). During these discussions, the teachers from Austria and Portugal would use the metaphor of ‘covering the ground’ of the curriculum, creating a sense of an over-crowded ‘curriculum-in-use’ that prevented an active learning component being

introduced. By contrast, the German and Scottish teachers often used an 'orientation' metaphor that referred to a broader set of educational values and a concern for the students' well-being. In the case of Hungary, Latvia and Poland, finally, the teachers used the metaphor of 'transmission' to convey a sense of passing on knowledge and talked of 'teaching to the book', of having no time for interactive learning methods, and of being constrained by the availability of printed textbooks. The constraints on teaching pre-vocational education subjects were often related directly to teachers' access to resources and the time available for using such resources.

We also found quite significant differences between how the curriculum is planned nationally and how it is actually organised at a regional and/or institutional level. In Germany, for instance, the regional dimension of curriculum design is very important, reflecting the country's particular education policy and cultural history. Teacher training policies for example, are determined at federal state level, as is the pre-vocational curriculum for schools. In Scotland, the local authority is crucial and sets its own educational policies in line with the needs and expectations of a local population. In the example from the local authority in our study, the key factor was its decision to offer a wide-ranging work-related curriculum at lower secondary level. Other local authorities in Scotland have taken an entirely different route, with some offering an exclusively academic curriculum.

This analysis is particularly important within highly devolved curriculum design structures. Here, time and resources are paramount, and what may emerge is more of a 'hidden curriculum' (Jackson, 1990: p. 33) that reflects, for instance, the availability of textbooks, attitudes towards assessment, or the ability of individual teachers actually to teach a designated subject. If there is no adequate infrastructure to design and deliver teacher training that incorporates work-related learning, then it is extremely unlikely that it will be taught within schools. Likewise, if the curriculum is already over-crowded, there will be little space or time within it to teach any pre-vocational education.

The main reason given for not having pre-vocational education as a separate subject within the curriculum was that it could not be accommodated within an already over-crowded core curriculum. For instance in Portugal, lower secondary level students are already required to study ten subjects plus one option of their choice. In Poland, no additional resources or time were available to teach pre-vocational education as a separate subject, while in Austria, the subject was considered too complex to teach to 14- to 16-year olds. The majority of the countries offering an integrated model of curriculum delivery tended also to teach the subject (or subject cluster) in a more abstract and theoretical way. This was particularly the case for Hungary, where 'teaching to the book' and class sizes of 35 to 40 were normal, and Austria, where teachers had little time for interactive teaching methods and inputting knowledge was paramount. It was also the case in Poland, where the lack of space and time resulted in didactic teaching in what was an already over-crowded curriculum. Where the pre-vocational education curriculum was taught separately, much more time was given to co-operative and interactive learning methods.

Preparation for and sensitisation to the world of work and developing economic and business competencies are also considered extremely important in practical implementation in the classroom. By contrast with many other subjects at lower secondary level, which are taught according to scientific principles, relatively little attention is paid to developing self- and social competencies.

Conclusion

We would tend to agree with Raffe (2011) that our prime concern in comparative research should be with policy learning rather than policy borrowing. The aim should be to learn from other countries about the pre-vocational curriculum at lower secondary level rather than replicating any particular form of best practice. To this extent, the findings described here demonstrate clearly that pre-vocational education is taken seriously across the board, despite a few factors that impede its successful delivery in various countries.

There are, however, also some problems, which we discuss below. These include in particular:

- limited time and the failure of school-leaving examinations adequately to assess the relevant

competencies in pre-vocational education; b) inadequate training for teachers in this area; and c) contacts between schools and the world of work, which could be extended.

a) Once a decision is made to incorporate pre-vocational education within the lower-secondary curriculum, should it then be taught as a separate or integrated subject? For a number of the countries in our study, there is clearly a need to make the pre-vocational curriculum more transparent and available to a greater range of students. This may require a separate subject assessed as part of the general curriculum. For other countries there may, rather, be a need for greater integration of pre-vocational education within an existing range of academic subjects and subject clusters. However, this cannot simply be left to chance and requires a more systematic and sustained policy initiative to fully incorporate learning about the world of work into a general core curriculum. Two things are central here. First, teachers must be given adequate time in terms of contact hours to teach this knowledge and the teaching must also form a mandatory part of integrated curricula. Second, the curriculum content must be embedded in the examinations that underpin the qualification. The value and importance of pre-vocational education will be consistently valued by all players – including teachers, students and parents – only if the curriculum acquires a value beyond mere assessment and certification in terms of individuals' transition to further education and training courses or the labour market (Li, 2012: p. 145).

b) All the countries in the study identified the lack of confidence (or, in some cases, interest) that many teachers have in teaching pre-vocational education. For some, this was because they had not experienced the workplace themselves, but most saw teacher training as lacking in this area. Those who were confident had undergone specific in-service training, often on a voluntary basis, as was highlighted in the Austrian and German examples of teachers using innovative practice.

It would seem obvious, therefore, that initial teacher training should recognise the importance of giving teachers the skills and confidence required to teach pre-vocational education. Offering future teachers full academic training in pre-vocational education, which provides both appropriate theoretical subject skills courses and company placements and in-service training courses to develop their insight into employment practice, could, therefore, be an appropriate way to develop young teachers' professional skills.

c) The issue of the relationship to the world of work is vitally important against the backdrop of the purpose and orientation of pre-vocational education, as discussed above within the context of the curriculum analysis and interviews with teachers. There were many excellent examples of existing links between schools and the world of work, but most of the teachers interviewed saw room for improvement: even where work experience/placements (for students and teachers) were offered, it was often felt that not enough time was given for these to be useful, either in terms of the placement itself or because preparation and evaluation of and reflection on the experience was inadequate. Although keen to improve their students' knowledge and experience of the world of work, many teachers tend to view business from an outsider's perspective.

An alternative approach here is to encourage a more direct involvement of employers and business-owners themselves. One barrier that needs to be overcome if partnerships are to be improved is to find ways around the rigidity of the school timetable, through careful advance planning of business links and more formalised arrangements. It is not only business partnerships that are important for schools, but also their partnerships with other schools and local government and non-governmental bodies. Many such institutions have useful knowledge and resources that can be shared to enhance pre-vocational education. It is vitally important that teachers and their schools have time to develop and maintain such partnerships.

In this context, it is important to return to the area of career orientation. Career orientation (also referred to as careers guidance/career education) was identified as a key area (OECD, 2004). Where it was taught in the general secondary school, it was often part of other subjects, and its success was dependent on the commitment of the individual teacher. Those teachers with work experience outside education tended to be more interested in this area and, perhaps, were more confident about teaching work-related skills. Here, it would be useful to integrate career orientation more firmly within pre-vocational education curriculum, so as to establish closer links between business knowledge and career

orientation and to facilitate knowledge-based career choices on the part of students. At the same time, schools' external contacts could be used both to develop skills and to facilitate career choices, for example through integrating placements and company visits or projects with business partners (Asher, 2005: p. 66; Beinke, 2012a; Beinke, 2012b).

Despite this clear scope for improvement and development, it is possible to draw a positive conclusion from our findings at this stage. In all seven countries surveyed, pre-vocational education is clearly and demonstrably embedded in the curriculum; teachers consider it important and are focused and motivated to teach it. This represents an opportunity to tackle appropriately the education policy aspirations of pre-vocational education set out above and, in particular, the desire to reduce the risks represented by the transition from school to work and to prepare young people for the world of work.

Acknowledgement

The article bases on the international research project "Fit for business: Developing Business Competencies in School". Hence, we would like to thank all project partners for their generous cooperation. The research project has been funded with support from the European Commission. This article reflects the views only from the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Notes

1. "Pre-vocational education contains all the educational measures taken by official educational institutions during the lower secondary education that are designed to intentionally introduce the participants to the world of work and/or to prepare them to entry into further vocational or technical programs, with a purpose of facilitating the STW [school-to-work] transition in their future career development. It does not necessarily lead to a labour-market relevant vocational qualification but helps the participants to gain the knowledge, skills, attitudes and competences which are necessary for a smooth STW transition later. The content and form of it is not limited to one certain discipline, but open to different education activities. The main object of it is closely related to future vocational (education and/or training) activities of the participants, but not so much to the further academic education choices" (Li, 2012: p. 7).
2. The research project was funded between 2009 and 2011 with support from the European Commission. This publication reflects the views of the authors; the Commission cannot be held responsible for any use which may be made of the information contained therein. We should like here to thank all the project partners for their generous cooperation and contribution to this paper.
3. The definition offered here, which is taken from the OECD glossary, refers to the definition underpinning the 1997 International Standard Classification of Education (ISCED) (UNESCO, 1997). ISCED was reviewed in 2011 (UNESCO, 2011), and the definition of 'pre-vocational education' was simplified to provide a distinction only between vocational and general education programmes: "Programme orientation in ISCED 2011 differentiates only between vocational programmes and general programmes. ISCED 1997 classified pre-vocational education separately. Such programmes do not provide labour market-relevant qualifications and are now mainly classified as general education" (UNESCO, 2011: No. 278). Despite this, the literature (see, for example, Li, 2012: p. 6) continues to use the older definition of 'pre-vocational education' in parallel with the revised definition and can, therefore, be used as a reference definition of the concept of pre-vocational education within the context of this study.
4. Nevertheless, it should be borne in mind that the information provided by the teachers interviewed did, of course, reflect solely their individual views, which do not necessarily overlap with the 'reality of teaching', since statements made by the teachers are always at risk of being influenced by social desirability. Nonetheless, it is precisely this subjectivity on the part of the teachers interviewed that also constitutes the key element in real teaching transactions (Mujis, 2006: pp. 58).

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